

Substitute Claim pages

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1. (amended) The method of removing an engine from a van type vehicle, the front of the vehicle having external frontal parts removed to create a large frontal opening in the vehicle within which the front of the engine is exposed and through which the engine may be extracted, comprising the steps of:

- a. attaching an engine plate to the front of the engine block;
- b. attaching an adapter tube with an adapter plate to a conventional hoist arm and moving the such hoist to locate the adapter plate at the opened engine compartment;
- c. joining the adapter plate to the engine plate with a pivot pin;
- d. placing the free end of a leveler control attached to the adapter tube against the engine spaced vertically from the pivot pin;
- e. adjusting the leveler control ratchet to place the leveler shaft in tension against the engine;
- f. releasing the engine mounts;
- g. raising the hoist enough to clear the engine from its all engine mounts;
- h. drawing the engine out through the frontal opening in the vehicle, while adjusting the leveler control or the hoist as necessary to pass any obstructions.

2. (amended)       Apparatus for removing and replacing an engine from a front compartment in a van type vehicle, comprising

an engine plate for attachment to the front end of an engine in the vehicle,  
a lifting adapter plate hinged to said engine plate to swing about a horizontal axis,  
a lift adapter arm extending from said lift adapter plate and having means for connection to a hoist apparatus,

a level controller including an extendable and retractable shaft connected at one of its ends to said lift adapter arm and having its other end adapted to engage the frontal area of an engine at a location spaced vertically from an attached engine plate, said extendable and retractable shaft including an adjustment ratchet mechanism which is rotatable in opposite directions to shorten and lengthen the shaft to adjust the angle at which the attached engine is fixed onto the lift adapter arm.

whereby an engine can be attached and handled through the lifting adapter arm, and the engine's tilt position is adjustable with respect to the lifting adapter arm.

3. (amended) The apparatus as defined in claim 2, wherein  
said hinge attachment of said engine plate to said lift adapter plate includes a removable horizontally extending hinge pin.
  
4. (amended) The apparatus as defined in claim 2, wherein  
said lift adapter arm is constructed to fit telescopically onto a conventional hoist arm and locked into position.